

## Abstract

The present invention is a system for determining the three dimensional shape of an object, having a first measuring means for measuring a first distance and direction from a fixed first observation point to a first group of measurement points on an object, and a second measuring means for measuring a second distance and direction from a movable second observation point to a second group of measurement points on the aforementioned object, at least one point among said second group of measurement points being the same measurement point as at least one point among the aforementioned first group of measurement points, and said second group of measurement points including at least one measurement point not included in the aforementioned first group of measurement points, and further being provided with a calculating means for calculating the traveling velocity vector of the second observation point from the measurement results concerning the aforementioned same measurement point due to the first and second measuring means, correcting the aforementioned second measurement results based upon said traveling velocity vector, and calculating the three dimensional coordinates of the measurement points of the first group and the second group, and a displaying means that displays an image of the object based upon the aforementioned three dimensional coordinates.